providing said primer being bonded to a carrier macromolecule having a molecular weight in excess of 80,000;

hybridizing the bound primer to said template; and

extending said primer to replicate said template in complementary form.

4. (Amended) A process as claimed in claim 3, wherein the carrier macromolecule in its free state is substantially linear and substantially uncharged at a pH in the range of 4 to 10.

5. (Amended) A process as claimed claim 4, wherein said carrier molecule has a peak molecular weight in the range of in excess of 80,000 to 40,000,00.

6. (Amended) A process as claimed in claim 5, wherein said carrier macromolecule is water soluble.

7. (Amended) A process as claimed in claim 6, wherein said primer is bound to said carrier macromolecule via one or more moieties derived from divinyl sulphone, each of which moieties is attached to each of the carrier macromolecule and the primer by a covalent linkage formed between on of the two vinyl groups of a divinyl sulphone molecule and a reactive functionality on the carrier macromolecule or primer.

8. (Amended) A process as claimed in claim 7, wherein said primer is extended by the action of polymerase incorporating nucleotides on to said primer.

10. (Amended) A process as claimed in claim 7, wherein said primer is extended by the action of a ligase ligating said primer to at least one further primer hybridised to said template.

12. (Amended) A process as claimed in claim 10, wherein said carrier macromolecule is bound to a solid support.

15. (Amended) A process as claimed in claim 14, wherein during the extension of a said primer, a detectable marker is incorporated into the extended primer.

16. (Amended) A process as claimed in claim 15, wherein said extension of the primer is conducted in situ in a biological sample.

18. (Twice Amended) A method of detecting the presence of a nucleic acid bound to a carrier macromolecule comprising:

providing a first nucleic acid having a molecular weight in excess of 80,000;

providing a second nucleic acid having a molecular weight in excess of 80,000, contacting said first and second nucleic acids under hybridization conditions, and detecting hybridization between said first and second nucleic acids.